

ABSTRACT

5 Methods for removing arsenic from water by addition of inexpensive and
commonly available magnesium oxide, magnesium hydroxide, calcium oxide, or
calcium hydroxide to the water. The hydroxide has a strong chemical affinity for
arsenic and rapidly adsorbs arsenic, even in the presence of carbonate in the water.
Simple and commercially available mechanical methods for removal of magnesium
10 hydroxide particles with adsorbed arsenic from drinking water can be used, including
filtration, dissolved air flotation, vortex separation, or centrifugal separation. A method
for continuous removal of arsenic from water is provided. Also provided is a method for
concentrating arsenic in a water sample to facilitate quantification of arsenic, by means
of magnesium or calcium hydroxide adsorption.

100394-10394